AMENDMENT TO THE CLAIMS

1. (Currently Amended) Method of watermarking a color image that has at least three components, ~~characterized in that it~~ wherein the method comprises:

an insertion step of a mark of watermarking, on at least one point of the image, according to an insertion rule taking into account the relative position of three component vectors associated to said at least one point,

wherein, for each of said related points, the method comprises:

a step of calculating the distance between any two vectors of said at least three vectors,

a step of selecting two vectors as reference vectors and one vector to be marked in order to bear said mark of watermarking, said reference vectors being those the furthest away from each other, and

said vector to be marked is a central vector, positioned between said reference vectors .

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Currently Amended) Method of watermarking set forth in ~~claim 4~~ claim 1, characterized in that a border is set between said reference vectors, defining two zones respectively associated to binary values “0” and “1”.

6. (Original) Method of watermarking set forth in claim 5, characterized in that said border is set by the bisector between said reference vectors.

7. (Original) Method of watermarking set forth in claim 5, characterized in that the marking of said vector to be marked comprises a possible shift of said vector to be marked in one of said zones, according to the binary value for marking to be applied.

8. (Original) Method of watermarking set forth in claim 7, characterized in that said shift has a variable amplitude, according to a marking strength chosen in accordance to at least one local characteristic of said image.

9. (Currently Amended) Method of watermarking set forth in ~~any~~ claim 5, characterized in that the marking of said vector to be marked comprises a possible shift of said vector to be marked towards one or other of said reference vectors, according to the binary marking value to be applied.

10. (Original) Method of watermarking set forth in claim 1, characterized in that it also comprises a transformation step into wavelets of each of said components of the image, and in that said at least three component vectors are set, for each point of at least one level of decomposition of said transformation into wavelets, for each of said components respectively.

11. (Original) Method of watermarking set forth in claim 1, characterized in that at least two marking agreements for a vector are provided.

12. (Original) Method of watermarking set forth in claim 11, characterized in that the marking agreement for a given image chosen is the one limiting the risk of conflicts at the time of detecting said mark.

13. (Original) Method of watermarking set forth in claim 12, characterized in that one of said marking agreements is chosen according to the number of reference vectors in said image for each of said components.

14. (Original) Method of watermarking set forth in claim 6, characterized in that said marking is, at least under normal circumstances, calculated according to the following equation:

$$\vec{V}_{M,W}(x,y) = \vec{V}_R(x,y) - (1 - F_M)(\vec{V}_R(x,y) - \vec{V}_M(x,y))$$

where $\vec{V}_M(x,y)$ is said vector to be marked, $\vec{V}_R(x,y)$ is one of said reference vectors, F_M is said marking force and $\vec{V}_{M,W}(x,y)$ is said marked vector.

15. (Original) Method of watermarking set forth in claim 14, characterized in that at least two marking agreements for a vector are provided and that, in the event of a conflict, said marking is calculated according to:

$$\vec{V}_{M,W}(x,y) = \vec{V}_R(x,y) - beta.(1-F_M)(\vec{V}_R(x,y) - \vec{V}_M(x,y)),$$

where *beta<1*.

16. (Original) Method of watermarking set forth in claim 10, characterized in that it comprises, after said step of associating a mark of watermarking, a transformation step into inverse wavelets, issuing a marked image.

17. (Currently Amended) Method of watermarking set forth in ~~any one of claims 1 to 15~~ claim 1, characterized in that said mark is a pseudo-random binary signature written in a redundant manner.

18. (Original) Method of watermarking set forth in claim 1, characterized in that said components belong to the group comprising:

- the RGB components;
- the YUV components;
- the CMY components.

19. (Currently Amended) Device for watermarking a color image that has at least three components,

~~characterized in that it~~ wherein the device comprises means ~~of~~ for inserting a mark of watermarking, on at least one point of the image, according to an insertion rule taking into account the relative position of at least three component vectors associated to said at least one point, wherein the device comprises:

means for calculating, for each of said at least one point, the distance between any two vectors of said at least three vectors,

means for selecting, for each of said at least one point, two vectors as reference vectors and one vector to be marked in order to bear said mark of watermarking, said reference

vectors being those the furthest away from each other and said vector to be marked is a central vector, positioned between said reference vectors.

20. (Currently Amended) Computer-readable storage medium comprising program code instructions that can be used in a computer to watermark a color image, having at least three components,

~~characterized in that~~ wherein said program comprises ~~means of programming~~ instructions that are readable by a computer in order to carry out an insertion step of a mark of watermarking, in at least one point of the image, according to an insertion rule taking into account the relative position of at least three component vectors associated to said at least one point, said instructions carrying out, for each of said related points:

a step of calculating the distance between any two vectors of said at least three vectors,

a step of selecting two vectors as reference vectors and one vector to be marked in order to bear said mark of watermarking, said reference vectors being those the furthest away from each other, and

said vector to be marked being a central vector, positioned between said reference vectors.

21. (Cancelled)

22. (Cancelled)

23. (Cancelled)

24. (Original) Method of detection set forth in claim 23, characterized in that a border between said reference vectors defining two zones respectively associated to the binary values "0" and "1", said recovering step also comprises a sub-step for identifying the zone in which said marked vector resides, and a step for associating a corresponding binary value.

25. (Currently Amended) Method of detection set forth in claim 22, characterized in that said mark is ~~recuperated~~ recovered at least twice, and in that a correlation calculation is implemented with regard to a reference signature, in order to decide whether the

watermarking is or is not correctly detected.

26. (Cancelled)

27. (Cancelled)

28. (Currently Amended) Method of watermarking a color image that has at least three components, wherein the method comprises:

an insertion step of a mark of watermarking, on at least one point of the image, according to an insertion rule taking into account the relative position of three component vectors associated to said at least one point,

wherein, for each of said related points, the method comprises:

a step of calculating the distance between any two vectors of said at least three vectors,

a step of selecting two vectors as reference vectors and one vector to be marked in order to bear said mark of watermarking, said reference vectors being those the furthest away from each other, and

said vector to be marked being a central vector, positioned between said reference vectors, and

a transformation step into wavelets of each of said components of the image, and wherein said at least three component vectors are set, for each point of at least one level of decomposition of said transformation into wavelets, for each of said components respectively.

29. (New) Method of detecting a mark of watermarking a color image that has at least three components, wherein the method comprises:

a recovering step of a mark of watermarking, on at least one point of the image, according to a recovering rule taking into account the relative position of three component vectors associated to said at least one point,

wherein, for each of said related points, the method comprises:

a step of calculating the distance between any two vectors of said at least three vectors, wherein the two vectors the furthest away from each other are reference vectors, the third vector being a marked vector bearing said mark of watermarking,

a step of reading said mark of watermarking on said third vector.

30. (New) Device for detecting a mark of watermarking a color image that has at least three components,

wherein the device comprises means for recovering a mark of watermarking, on at least one point of the image, according to a recovering rule taking into account the relative position of at least three component vectors associated to said at least one point, wherein the device comprises:

means for calculating, for each of said at least one point, the distance between any two vectors of said at least three vectors, wherein the two vectors the furthest away from each other are reference vectors and the third vector is a marked vector bearing said mark of watermarking, and

means for reading said mark of watermarking on said third vector.

31. (New) Computer-readable storage medium comprising program code instructions that can be used in a computer to watermark a color image, having at least three components,

wherein said program code instructions are readable by a computer in order to carry out a recovering step of a mark of watermarking, in at least one point of the image, according to a recovering rule taking into account the relative position of at least three component vectors associated to said at least one point,

wherein said program code instructions comprise incstructions to carry out, for each of said related points:

a step of calculating the distance between any two vectors of said at least three vectors, wherein the two vectors the furthest away from each other are reference vectors and the third vector is a marked vector bearing said mark of watermarking, and

a step of reading said mark of watermarking on said third vector.